

**TWO NEW GENERA AND TWO NEW SPECIES OF NEW WORLD
STILT BUGS (HETEROPTERA: BERYTIDAE)**

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Abstract.—The new genera and species *Diabolonotus pilosus* from Mexico (Chiapas), and *Oedalocanthus ornatus* from Belize, Mexico (Durango, Guerrero, Jalisco, Puebla, Oaxaca, and Sinaloa), and the United States (Arizona) are described to provide names for a forthcoming revision and phylogenetic analysis of the Berytidae of the world. An illustration of the dorsal habitus, scanning electron micrographs, and diagnostic information are provided for each species to help distinguish these taxa from other New World berytids.

Key Words: Heteroptera, Berytidae, new genera, new species, *Diabolonotus pilosus*, *Oedalocanthus ornatus*, Belize, Mexico, United States

The two new genera and species presented in this paper are described to provide names for a forthcoming revision and phylogenetic analysis of the berytid genera of the world. Both genera belong to a group that previously would have been included in the subfamily Metacanthinae. However, these two taxa, as well as the majority of other Neotropical genera, comprise a monophyletic group that will be transferred to a new subfamily and tribe to be described in the above-mentioned generic revision.

Abbreviations for institutions cited in the paper are CNC (Canadian National Collection, Agriculture Canada, Ottawa, Ontario); TAM (Texas A&M University, College Station); UNAM (Universidad Nacional Autónoma Mexico, Mexico D.F.) and; USNM (U.S. National Museum of Natural History, Washington, D.C.).

***Diabolonotus* Henry, NEW GENUS**

Type species: *Diabolonotus pilosus* Henry, new species.

Diagnosis.—*Diabolonotus* is most closely related to *Xenoloma* Harris (1943) in sharing a strongly convex pronotum, stout legs, bowed hind femora, widely spaced ocelli, and widely explanate basal margin of the pronotum having a V-shaped process that obscures the scutellum (Fig. 1, 2). It differs, however, in the more slender ostiolar evaporative area that extends from between the meso- and metacoxa to the dorsal edge of the mesopleural area (Fig. 4), the differently shaped metasternum (with rostral groove represented only by a dimpled area at the middle), the 2nd abdominal segment having only a weak indentation on anterior edge (both segments with a broad longitudinal groove in *Xenoloma*), the lack of protuberances on the side of the pronotum, the presence of two long, anteriorly directed, hornlike tubercles on the pronotum (Figs. 1, 2), and the femora and bases of the tibiae with small, setigerous, wartlike tubercles (Fig. 3).

Description.—Length 3.20–3.60 mm.

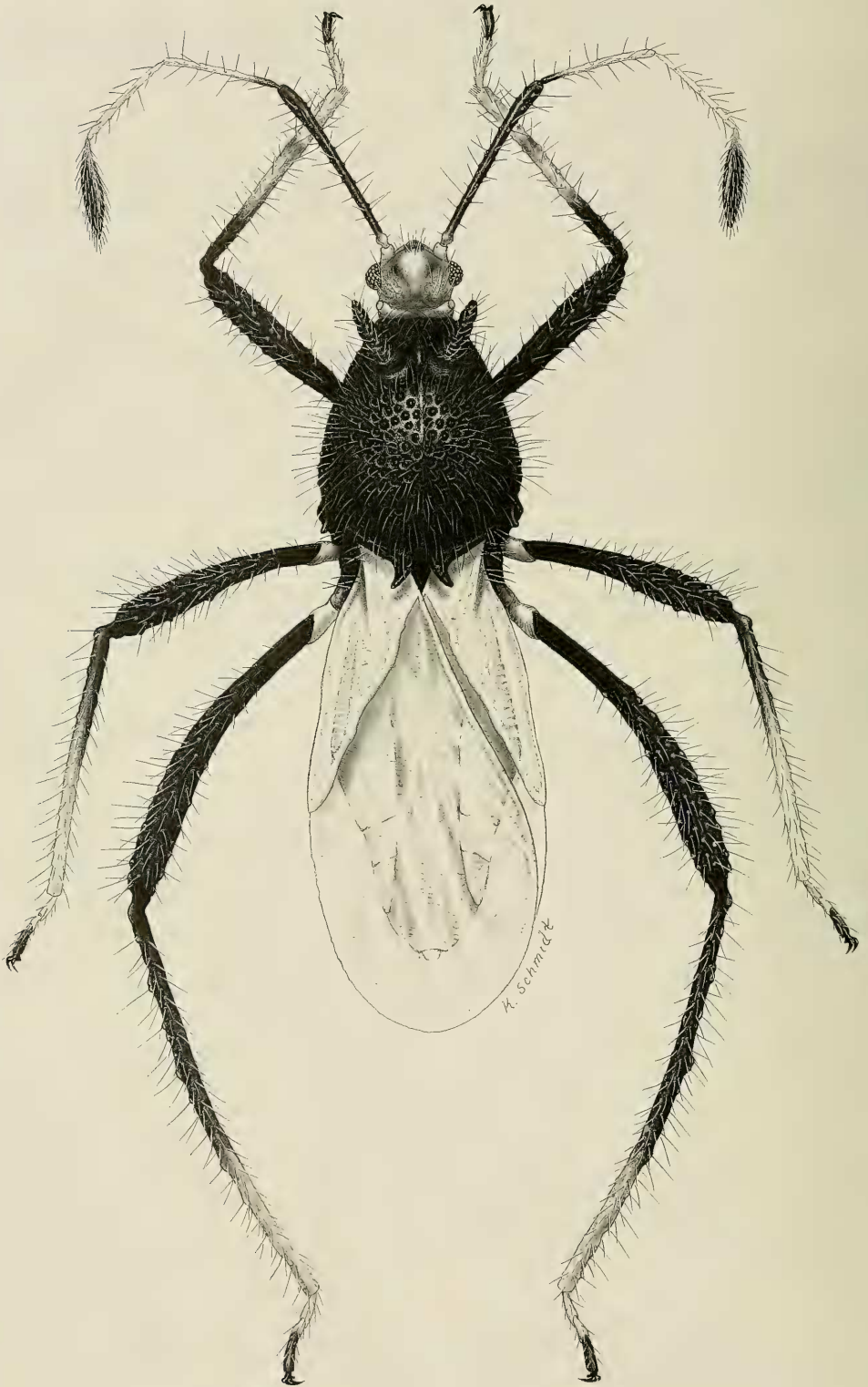
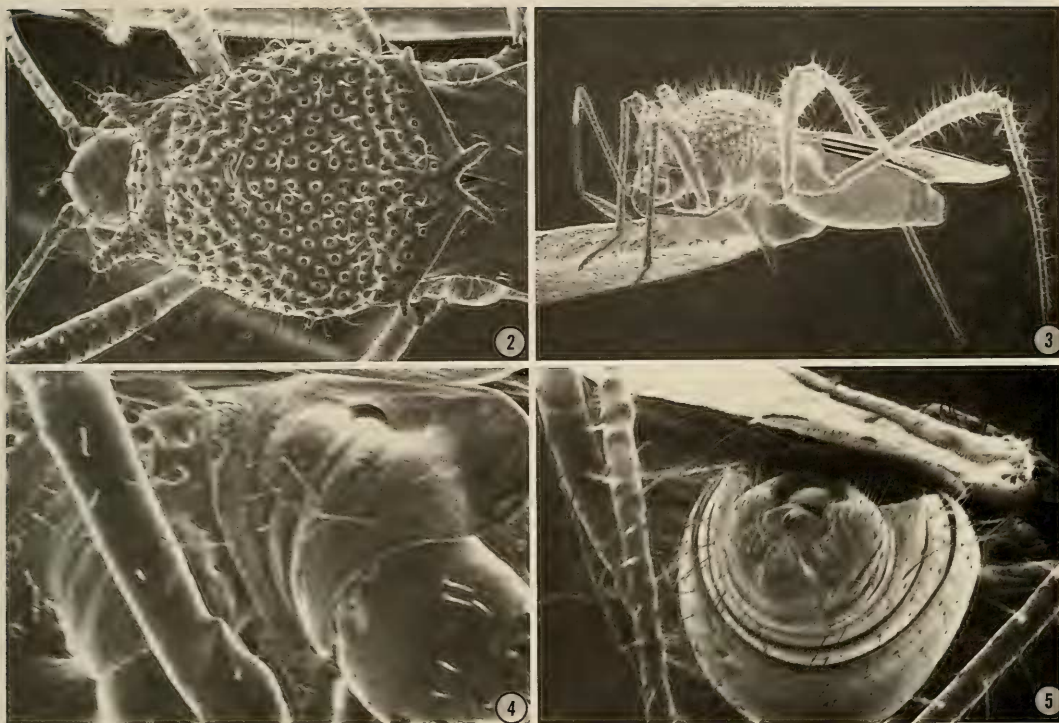


Fig. 1. Dorsal habitus of *Diablonotus pilosus*.



Figs. 2–5. Scanning electron micrographs (uncoated) of *Diablonotus pilosus*. 2, Head and pronotum, dorsal aspect (51.5 \times). 3, Whole specimen, lateral aspect (18.7 \times). 4, Ostiolar evaporative area (122 \times). 5, Male genital capsule, caudal aspect (72.5 \times).

Head slightly longer than wide, frons and vertex strongly convex, tylus somewhat quadrate in lateral aspect; posterior lobe much lower than level of anterior lobe, giving an almost necklike appearance in lateral aspect, ocelli widely placed in line with inner margin of eyes. Rostrum extending to mesocoxae. Antenna with long pilose setae two or more times longer than segments; segment I longest, somewhat thickened, gradually enlarged to apex; segments II and III most slender, subequal in length; segment IV thickest, fusiform. Pronotum coarsely punctate; anterior lobe with a long, stout, apically blunt tubercle or spine on each side; posterior lobe strongly convex, coarsely punctate, unarmed, lateral carinae indistinct, basal edge explanate, each side with a short spinelike tubercle and middle with a V-shaped process (Fig. 2) extending caudally to obscure scutellum. Hemelytra

translucent to hyaline, somewhat subparallel, apically rounded, constricted at bases. Ventral surface: procoxae proximate, meso- and metacoxae widely separated; mesosternum with a wide rostral groove, metasternum with a dimpled groove at middle; abdomen impunctate, 2nd segment quadrate, impressed on anterior margin but without distinct rostral groove. Ostiolar evaporative area (Fig. 4) very narrow, extending from opening between meso- and metacoxae dorsally to near level of hemelytra, without tubercles, channel appearing only as an indistinct line. Legs (Figs. 1, 3) stout, femora and bases of tibiae with small, setigerous, wartlike tubercles; femora gradually enlarged apically, metafemora weakly bowed; claws cleft or toothed basally. Genital capsule generally rounded, impunctate, caudal edge of aperture with a stout, dorsally curved, spinelike tubercle (Fig. 5); para-

meres oblong oval, with a recurved, acute, apical process.

Etymology.—The generic name is taken from the Greek “diabolos,” meaning devil and “notum,” referring to the pronotum or dorsum of the thorax, and is used to draw attention to the two, anteriorly directed “devil-like” horns or blunt spines on the pronotum. The gender is masculine.

***Diabolonotus pilosus* Henry,**

NEW SPECIES

(Figs. 1–5)

Diagnosis.—*D. pilosus* can be separated from all other New World berytids by the generic characters given above. Additional characters that distinguish this unusual berytid from all others are the shiny black thorax, 1st and 4th antennal segments, and femora, contrasting with the pale, almost white, abdomen showing through the hyaline hemelytral membrane (clavus and corium translucent white), and the strongly pilose body and appendages.

Description.—*Holotype male*: Length 3.20 mm. Generally shiny black, with contrasting pale to whitish hemelytra (Fig. 1). **Head**: Length 0.46 mm, width 0.40 mm, width of vertex 0.28 mm; impunctate, brown to yellowish brown, with fuscous along inner margins of eye on vertex, around antennal bases, and along gular region; eyes and ocelli reddish. **Rostrum**: Length 0.94 mm, extending to bases of mesocoxae. **Antenna**: Segment I, length 0.90 mm, II, 0.56 mm, III, 0.54 mm, IV, 0.48 mm; segment I black, II yellowish brown, black at base, III, yellowish brown, IV black; segments I–III with long, slender setae 2 or more times diameter of segments, setae on segment IV subequal to diameter of segment. **Pronotum** (Fig. 2): Length 1.06 mm (to base of V), basal width 0.82 mm; uniformly shiny black, deeply punctate except for median and indistinct lateral carina, anterior and posterior lobes weakly separated, strongly convex; anterior lobe with a stout, setigerous, apically blunt tubercle or spine at each front angle, the base around

each spine swollen; basal margin of posterior lobe widely explanate, each side of base with a short marginal spinelike tubercle and middle with a V-shaped process. **Scutellum**: Reduced, with a small globose tubercle; difficult to see below explanate base of pronotum. **Hemelytron**: Macropterous; membrane hyaline, corium and clavus translucent pale to almost whitish, fuscous across base bordering pronotum, margin of constricted base with several long, erect setae. **Ostiole area**: evaporative area whitish (Fig. 4). **Ventral surface**: Acetabula, sides of prosternum, and all of mesosternum shiny black, middle of prosternum and metasternum pale or whitish; abdomen with scattered long simple setae, shiny pale yellow to nearly white ventrally (and dorsally), segment II more brown, margined with fuscous. **Legs** (Figs. 1, 2): Femora black, with numerous small, wartlike setigerous tubercles, each tubercle with a long erect seta equal to or longer than femoral diameters; pro- and mesotibiae pale yellowish to white, with basal $\frac{1}{3}$ black, metatibiae pale, black on basal half or more, all tibiae with small, wartlike setigerous tubercles on black areas, setal lengths 4 or more times diameter of segments; tarsomeres I and II pale, tarsomere III and claws black. **Femoral lengths**: Pro—0.90 mm, meso—1.04 mm, meta—1.40 mm. **Tibial lengths**: Pro—1.08 mm, meso—1.24 mm, meta—1.94 mm. **Genital capsule** (Fig. 5).

Female (n = 4): Length 3.40–3.60 mm. **Head**: Length 0.46–0.48 mm, width 0.42–0.44 mm, vertex 0.30–0.32 mm. **Rostrum**: Length 1.04–1.06 mm. **Antenna**: Segment I, length 0.90–1.02 mm; II, 0.52–0.60 mm; III, 0.50–0.58 mm; IV, 0.50–0.52 mm. **Pronotum**: Length 1.12–1.16 mm, basal width 0.94–0.96 mm. **Femoral lengths**: Pro—0.90–0.98 mm, meso—1.08–1.16 mm, meta—1.50–1.60 mm. **Tibial lengths**: Pro—1.02–1.20 mm, meso—1.30–1.42 mm, meta—2.06–2.24 mm.

Similar to male in body form and coloration.

Host.—Unknown.

Distribution.—Chiapas, Mexico.

Etymology.—The specific epithet “pilosus” is used to denote the long, fine setae that cover the body and appendages of this species.

Type data.—Holotype: ♂, Mexico, Chiapas, 5 mi. north Nuevo Tenochtitlan, 3000', 7 August 1990, J. C. Schaffner (USNM). Paratypes: 4 ♀♀, same data as for holotype (3 TAM, 1 USNM).

Oedalocanthus Henry, NEW GENUS

Type species: *Oedalocanthus ornatus* Henry, new species.

Diagnosis.—*Oedalocanthus* can be distinguished from all other Berytidae by the shape of the pronotum having a narrow anterior lobe with five white, ovoid tubercles and two stout, white spines and a strongly convex, punctate posterior lobe with four subtriangular, dorsally curved tubercles or projections along the posterior margin (Fig. 6, 8). It is most similar to *Phaconotus* Harris (1943) in size, general body form, banding on the legs and antennae, shiny head, broadly rounded frons, and ostiolar area. *Oedalocanthus*, in contrast to *Phaconotus*, lacks the small, round, white tubercles on the posterior lobes of the head and pronotum.

Description.—Length 2.48–3.24 mm. Head (Fig. 7) shiny, smooth, impunctate, divided into 2 lobes, anterior lobe with frons and vertex swollen; posterior lobe with 2 widely separated ocelli. Rostrum extending to bases of metacoxae. Antenna long, slender, segment I longest, lengths of II and III about subequal, IV shortest, thickest. Pronotum divided into distinct lobes, narrow anterior lobe punctate along anterior margin, with 2 short, round tubercles on each side and a long stout spine on either side of small, round, median tubercle (Fig. 6, 8); posterior lobe strongly convex, without lateral carinae, punctate, narrowly explanate basal margin with 4 upturned, subtriangular tubercles or projections, one at posterior angle and one on either side of

meson; scutellum with a single, stout, erect, cone-shaped spine (Fig. 6). Hemelytra macropterous, slightly constricted at middle and widest on apical $\frac{1}{3}$, mostly membranous; pattern of veins as in fig. 6. Venter impunctate. Ostiolar area (Fig. 9) lacking apparent scent channel; represented only by a flat, gray to whitish, subquadrate evaporative area. Legs long, slender; femora swollen apically; femora and tibiae distinctly banded; claws cleft or toothed basally. Genital capsule rounded, impunctate, caudal edge of aperture with a weakly raised median process (Fig. 10); paramere oblong oval with a slender, acute, apical process.

Etymology.—The generic name *Oedalocanthus*, derived from the Greek root “oidema,” meaning swelling or tumor, and the Latin “canthus,” meaning edge or border (a common generic ending used for berytid names), is used to denote the peculiar white, dorsally curved tubercles or projections along the basal margin of the pronotum. The gender is masculine.

Oedalocanthus ornatus Henry, NEW SPECIES (Figs. 6–10)

Diagnosis.—*Oedalocanthus ornatus* is distinguished from all other berytids by the white, rounded and conical tubercles on the anterior pronotal lobe, basal edge of the posterior pronotal lobe, and scutellum (Figs. 6).

Description.—*Male* (n = 10): Length 2.48–2.92 mm. General coloration yellowish brown with the head and posterior lobe of pronotum black. *Head* (Fig. 7): Length 0.42–0.44 mm, width 0.46–0.48 mm, width of vertex 0.24–0.26 mm; anterior lobe shiny black, apex of tylus white, posterior lobe yellow or orange brown. *Rostrum*: Length 1.00–1.02 mm, extending to bases of metacoxae. *Antenna*: Yellowish brown, segments II–III with wide dark-brown bands, segment IV black; segment I length 1.40–1.64 mm, II 0.76–0.80 mm, III 0.78–0.88 mm, IV 0.52–0.54 mm. *Pronotum* (Figs. 6, 8): Length 0.50–0.54 mm, basal

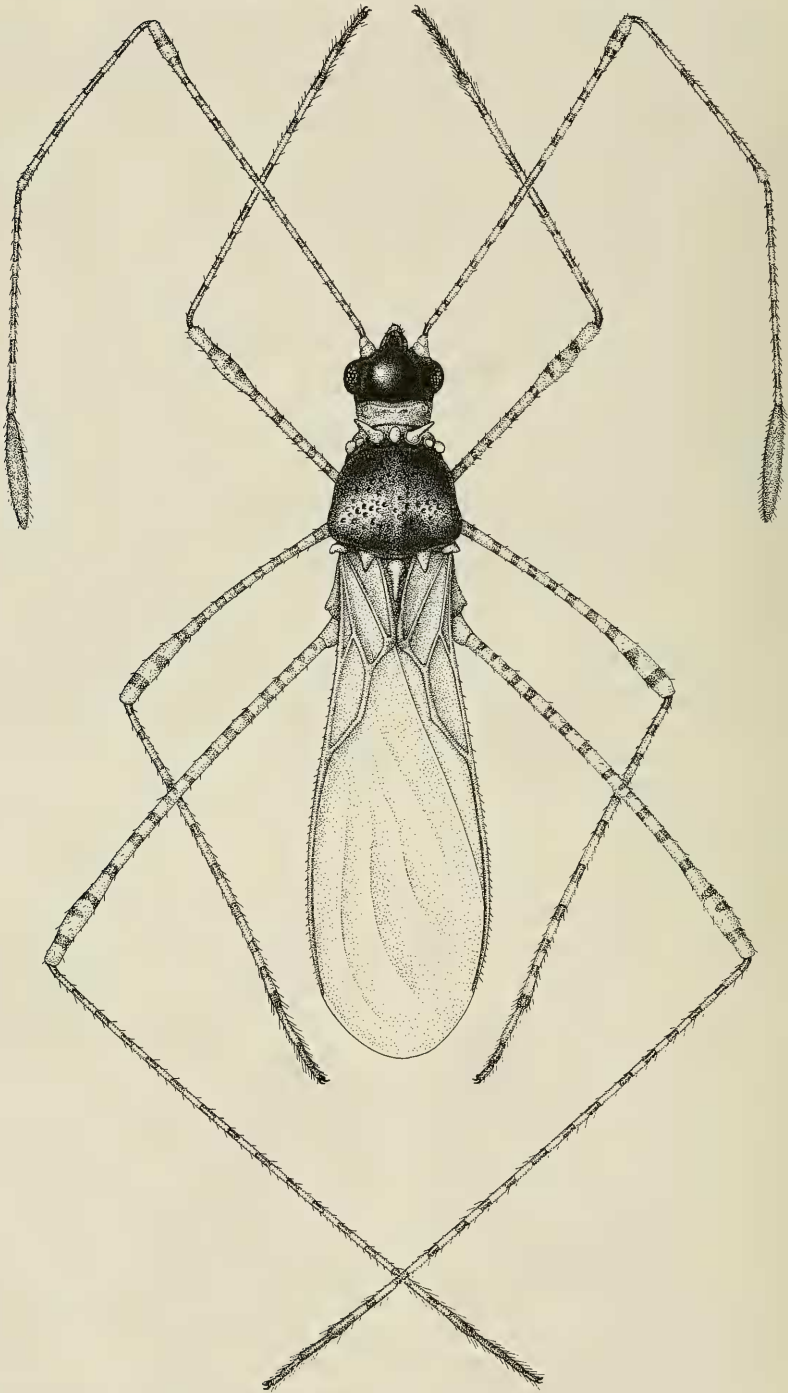
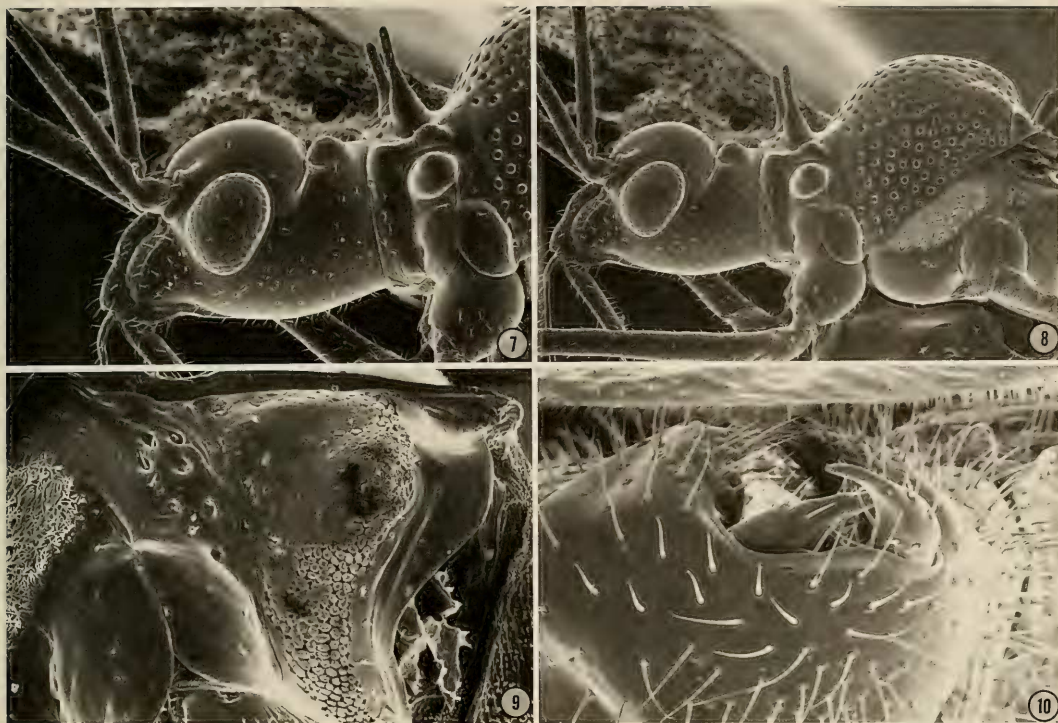


Fig. 6. Dorsal habitus of *Oedalocanthus ornatus*.



Figs. 7–10. Scanning electron micrographs of *Oedalocanthus ornatus*. 7, Head, lateral aspect (99 \times). 8, Head and pronotum (74.5 \times). 9, Ostiolar evaporative area (246 \times). 10, Male genital capsule, caudal aspect (364 \times).

width 0.46–0.52 mm, shiny black, tubercles white. *Scutellum*: Black, with a relatively slender, erect, conical, white tubercle. *Hemelytron*: Hyaline, veins mostly yellowish brown, inner margin of costal vein fuscous, small area of veins and membrane just posterior to apex of scutellum reddish. *Ventral surface*: Pro- and mesosternum and genital capsule black; abdomen brown. *Ostiolar evaporative area* (Fig. 9): Grayish or whitish). *Legs*: Whitish to yellowish brown, femora and tibiae with wide dark brown bands. *Femoral lengths*: Pro—0.84–0.88 mm; meso—0.96–1.02 mm; meta—1.38–1.60 mm. *Tibial lengths*: Pro—1.02–1.04 mm; meso—1.16–1.20 mm; meta—1.92–2.24 mm. *Male genital capsule*: Fig. 10.

Female (n = 10): Length 2.76–3.24 mm. *Head*: Length 0.42–0.48 mm, width 0.40–0.44 mm, vertex 0.28–0.30 mm. *Rostrum*: Length 1.14–1.24 mm. *Antenna*: Segment I, length 1.64–1.88 mm; II, 0.82–0.98 mm;

III, 0.88–1.06 mm; IV, 0.60–0.62 mm. *Pronotum*: Length 0.50–0.68 mm, basal width 0.48–0.64 mm. *Femoral lengths*: Pro—0.96–1.18 mm; meso—1.06–1.34 mm; meta—1.64–1.96 mm. *Tibial lengths*: Pro—1.12–1.30 mm; meso—1.30–1.58 mm; meta—2.34–2.72 mm.

Very similar to male in coloration and general body structure.

Host.—Two specimens were collected on *Desmodium* sp. [Fabaceae]. A series from Jalisco, Mexico, was collected on a low-growing plant with red flowers (H. Brailovsky, pers. comm.).

Distribution.—Belize, Mexico (Chiapas, Durango, Guerrero, Jalisco, Oaxaca, Puebla, and Sinaloa), and the United States (Arizona).

Etymology.—The specific epithet *ornatus*, Latin for handsome or splendid, indicates the attractiveness of this berytid's

brown-banded appendages and black pronotum adorned with white tubercles.

Type data.—Holotype: male, Mexico, Jalisco, Melaque, 8-VIII-85, H. Brailovsky [on low-growing plant with red flowers] (UNAM). Paratypes.—Belize: 1 ♂, 15 mi. W. Belize C., 9 Aug. 1974, D. Engleman (USNM). Mexico: 4 ♂♂, 3 ♀♀, Chiapas, Arriaga, 4 Aug. 1969, L. A. Kelton (CNC, USNM); 1 ♂, 10 mi. W. El Salto, Durango, Mexico, 9000', 3 Aug. 1964, L. A. Kelton (CNC); 2 ♂♂, Guerrero, Acapulco, La Pinzona, 1 Oct. 1986, H. Miranda, taken on *Desmodium* sp. (USNM); 1 ♂, Guerrero, Iguala, Teucizapan, 6-III-87, E. Barrera (UNAM); 11 ♂♂, 12 ♀♀, same data as for holotype (UNAM, USNM); 5 ♂♂, 18 ♀♀, Puebla, Calipan, 4-XI-1988, R. Barba, E. Barrera, L. Cervantes (UNAM, USNM); 2 ♀♀, Puebla, Tehuacan, on road to Oaxaca, 11 Oct. 1979, E. Barrera (UNAM, USNM); 2 ♀♀, Tehuantepec, Oaxaca, 9 Sept. 1979, E. Barrera (UNAM); 1 ♀, Sinaloa, 20 mi. S. E. Rosario, 20 Aug. 1964, H. R. Burke

and J. Apperson (TAM). United States: 1 ♀, Arizona, Cochise Co., Rustler's Park, 10 mi. W. Portal, ca. 8000', 3-IX-1991, E. E. Grissell (USNM).

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